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10/612,770	07/01/2003	James E. Brewer	A03P1047	4998

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PACESETTER, INC.
15900 VALLEY VIEW COURT
SYLMAR, CA 91392-9221

EXAMINER

GEDEON, BRIAN T

ART UNIT	PAPER NUMBER
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3766

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-7 and 10-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Burnes et al. (US 2003/0204212).

In regard to claims 1, 3, 5, 6, and 15-22, Burnes et al. disclose multichamber cardiac stimulation system using a implantable case 30, with a plurality of leads 32, 34, 36, 38, containing electrodes, located in the heart, figure 1. Figure 2B shows a signal generator 52, impedance sensing detector 56, stimulation electrodes 53 and 54, and impedance sensing electrodes 57 and 58. In view of figure 2B, stimulation electrodes 53 and 54 are located on the right side of the heart, and impedance sensing electrode 57 and 58 are located on the left side, implying that an electrical signal is delivered to a first position (i.e., in a right chamber) and sensing a potential at a second position (i.e., a left side). Both the first and second positions are located in or adjacent to one of the cardiac chambers or in a blood vessel (e.g., coronary sinus or cardiac vein), para 0044. Burnes et al. measures impedance, but in view of the fact that impedance is the ration between voltage potential and current and of the teachings regarding impedance

sensing of Burnes et al., the Examiner takes the position that potential is necessary if not inherently being measured. Burnes et al. teach that it is known to use impedance sensors in pacing systems, wherein a plurality of pace/sense electrodes placed in respective locations so that different impedance measurements can be made. As set forth in Burnes et al. impedance is measured between two sensing locations, which in view of a multi-chamber pacing system implies that impedance can be measured between two different chambers of the heart. Impedance is measured by delivering a current from a electrode (source or anode) such that the current is conducted through some region of the heart, and then measuring voltage (potential) differential at a second electrode (recording OR cathode) arising from the conduction of the current through the tissue, para 0010. The Examiner interprets this as applying an electrical signal (i.e., a current pulse) in a first position, then measuring the potential in a second location. Burnes et al. also teach that impedance measurements are taken across the heart at certain cardiac cycle times as a measure of chamber expansion or contraction, which the Examiner interprets as being parameters related to cardiac geometry, para 0012; impedance measurement are associated with cardiac geometry since Burnes et al. teach that maximum impedance is indicative of minimum cardiac volume, para 0018.

In regard to claims 2, 7, 19, and 22, the system of Burnes et al. can be employed in a unipolar configuration in which the pacemaker case is used as an electrode, para 0049.

In regard to claim 4, the heart is stimulated by a ring electrode, para 0046.

Art Unit: 3766

In regard to claims 10-12, impedance measurement are associated with cardiac geometry since Burnes et al. teach that maximum impedance is indicative of minimum cardiac volume, para 0018. Further, impedance measurements are taken across the heart at certain cardiac cycle times as a measure of chamber expansion or contraction, which the Examiner interprets as being parameters related to cardiac geometry, para 0012.

In regard to claim 13, the contraction and volume parameters detected by Burnes et al. are indicative of congestive heart failure, para 0002-0003.

In regard to claim 14, Burnes et al. apply a cardiac resynchronization therapy, para 0012.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burnes et al. (US 2003/0204212) in view of Digby (US Patent no. 4,173,230).

In regard to claims 8 and 9, Burnes et al. substantially describe the invention as claimed except do not teach sensing or pacing during the refractory period. Digby teaches that sensing and pacing can occur during a refractory period, col 4 lines 1-10. Therefore it would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 3766

invention was made to sense and pace during the refractory period in order to artificially extend it.

Response to Amendment

3. Applicant's arguments, amendment After-Final, filed 21 February, 2007, with respect to the rejection(s) of claim(s) 1-22 have been fully considered and are persuasive. Therefore, the final rejection has been withdrawn, due to the new grounds of rejection made above.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Gedeon whose telephone number is (571) 272-3447. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl H. Layno can be reached on (571) 272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3766

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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